

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

5 1-68 (Cancelled).

69. (Original) A process comprising:

- (a) derivatizing a carbon nanotube with a diazonium specie; and
- (b) covalently attaching a molecular wire to the derivatized carbon nanotube.

10 70. (Original) A process comprising:

- (a) derivatizing a carbon nanotube with a diazonium specie; and
- (b) covalently attaching a molecular switch to the derivatized carbon nanotube.

15 71. (Amended) The process of ~~claims~~ claim 69 ~~or 70~~, wherein the carbon nanotube is a single-wall carbon nanotube.

72. (Amended) The process of ~~claims~~ claim 69 ~~or 71~~ further comprising connecting a molecular electronic device to the molecular wire.

20 73. (Amended) The process of ~~claims~~ claim 69 ~~71, or 72~~, wherein the molecular wire comprises an oligo(phenylene ethynylene) molecular wire.

74. (Original) A product comprising:

- (a) derivatized carbon nanotube; and
- (b) a molecular wire covalently attaching to the derivatized carbon nanotube.

75. (Original) A product comprising:

- (a) derivatized carbon nanotube; and
- (b) a molecular switch covalently attaching to the derivatized carbon nanotube.

76. (Amended) The product of ~~claims~~ claim 74 ~~or 75~~, wherein the carbon nanotube is a single-wall carbon nanotube.

35 77. (Amended) The product of ~~claims~~ claim 74 ~~or 76~~ further comprising a molecular electronic device connected to the molecular wire.

78. (Amended) The product of ~~claims claim~~ 74, ~~76, or 77~~, wherein the molecular wire comprises an oligo(phenylene ethynylene) molecular wire.

5 79-84. (Cancelled).

85. (Amended) ~~The A method of claims 79, 80, 81, or 82, further~~ for derivatizing carbon nanotubes comprising:

(a) preparing an assembly, wherein

10 (i) the assembly comprises a first plurality of carbon nanotubes and a second plurality of carbon nanotubes; and

(ii) wherein the carbon nanotubes in the first plurality and the carbon nanotubes in the second plurality can be individually addressed electronically;

(b) immersing the assembly in a diazonium specie;

15 (c) applying a negative potential to the assembly to cause the first plurality to essentially come in contact with the second plurality;

(d) electrochemically reacting the assembly with the diazonium specie; and

(e) connecting functionalized molecules to the assembly.

20 86. (Original) The method of claim 85, wherein the functionalized molecules comprise molecules that function in a capacity selected from the group consisting of molecular switches and molecular wires.

87. (Amended) ~~The A method of claims 79, 80, 81, or 82, further~~ for derivatizing carbon nanotubes comprising:

25 (a) preparing an assembly, wherein

(i) the assembly comprises a first plurality of carbon nanotubes and a second plurality of carbon nanotubes; and

(ii) wherein the carbon nanotubes in the first plurality and the carbon nanotubes in the second plurality can be individually addressed electronically;

30 (b) immersing the assembly in a diazonium specie;

(c) applying a negative potential to the assembly to cause the first plurality to essentially come in contact with the second plurality;

(d) electrochemically reacting the assembly with the diazonium specie; and

(e) operatively connecting molecular electronic devices to the assembly.

35 88-93. (Cancelled).

94. (Amended) The A product of ~~claims 88, 89, 90, or 91~~, wherein made by the process further comprises comprising:

(a) preparing an assembly, wherein

(i) the assembly comprises a first plurality of carbon nanotubes and a second plurality of carbon nanotubes; and

(ii) wherein the carbon nanotubes in the first plurality and the carbon nanotubes in the second plurality can be individually addressed electronically;

(b) immersing the assembly in a diazonium specie;

(c) applying a negative potential to the assembly to cause the first plurality to essentially come in contact with the second plurality;

(d) electrochemically reacting the assembly with the diazonium specie; and

(e) connecting functionalized molecules to the assembly.

95. (Original) The product of claim 94, wherein the functionalized molecules comprise molecules that function in a capacity selected from the group consisting of molecular switches and molecular wires.

96. (Amended) The A product of ~~claims 88, 89, 90, or 91~~, wherein made by the process further comprises comprising:

(a) preparing an assembly, wherein

(i) the assembly comprises a first plurality of carbon nanotubes and a second plurality of carbon nanotubes; and

(ii) wherein the carbon nanotubes in the first plurality and the carbon nanotubes in the second plurality can be individually addressed electronically;

(b) immersing the assembly in a diazonium specie;

(c) applying a negative potential to the assembly to cause the first plurality to essentially come in contact with the second plurality;

(d) electrochemically reacting the assembly with the diazonium specie; and

(e) operatively connecting molecular electronic devices to the assembly.

97-129. (Cancelled)

130. (New) The process of claim 71 further comprising connecting a molecular electronic device to the molecular wire.

131. (New) The process of claim 71, wherein the molecular wire comprises an oligo(phenylene ethynylene) molecular wire.

132. (New) The process of claims 70, wherein the carbon nanotube is a single-wall carbon nanotube.

133. (New) The product of claim 76 further comprising a molecular electronic device connected to the molecular wire.

134. (New) The product of claim 76, wherein the molecular wire comprises an oligo(phenylene ethynylene) molecular wire.

135. (New) The product of claim 75, wherein the carbon nanotube is a single-wall carbon nanotube.

Applicant believes that no further fees are due. However, the Director is Authorized to debit any amounts due by this paper to Deposit Account No. 23-2426 of Winstead Sechrest & Minick P.C.

Applicant respectfully requests that Applicant's attorney be called at the below listed number if should there be any questions related to this matter.

Respectfully submitted,
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